Nos. 18-422, 18-726

IN THE

Supreme Court of the United States

ROBERT A. RUCHO, ET AL.,

Appellants,

v.

COMMON CAUSE, ET AL.,

Appellees.

ON APPEAL FROM THE UNITED STATES DISTRICT COURT FOR THE MIDDLE DISTRICT OF NORTH CAROLINA

LINDA H. LAMONE, ET AL.,

Appellants,

v.

O. JOHN BENISEK, ET AL.,

Appellees.

ON APPEAL FROM THE UNITED STATES DISTRICT COURT FOR THE DISTRICT OF MARYLAND

BRIEF OF BERNARD GROFMAN AND RONALD KEITH GADDIE AS *AMICI CURIAE* IN SUPPORT OF NEITHER PARTY

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INTEREST OF *AMICI CURIAE*[1]

Amici are political scientists who specialize in redistricting, including the statistical methods used to detect and measure partisan gerrymandering. *Amici* have served as expert witnesses and consultants in redistricting cases on behalf of both states and plaintiffs, Republicans and Democrats. They have also published many peer-reviewed articles on the subject.[2]

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[1] The parties have consented to the filing of this *amicus* brief. No counsel for a party authored the brief in whole or in part. No party, counsel for a party, or any person other than *amici curiae* and their counsel made a monetary contribution intended to fund the preparation or submission of the brief.

[2] Professor Grofman's publications include Bernard Grofman & Jonathan R. Cervas, *Can State Courts Cure Partisan Gerrymandering: Lessons from* League of Women Voters v. Commonwealth of Pennsylvania *(2018)*, 17 Election L.J. 264 (2018); Bernard Grofman & Gary King, *The Future of Partisan Symmetry as a Judicial Test for Partisan Gerrymandering after* LULAC v. Perry, 6 Election L.J. 2 (2007); Bernard Grofman, William Koetzle & Thomas Brunell, *An Integrated Perspective on the Three Potential Sources of Partisan Bias: Malapportionment, Turnout Differences, and the Geographic Distribution of Party Vote Shares*, 16 Electoral Stud. 457 (1997); Richard G. Niemi, Bernard Grofman, Carl Carlucci & Thomas Hofeller, *Measuring Compactness and the Role of a Compactness Standard in a Test for Partisan and Racial Gerrymandering*, 52 J. of Pol. 1155 (1990); Guillermo Owen & Bernard Grofman, *Optimal Partisan Gerrymandering*, 7 Pol. Geography Q. 5 (1988); Bernard Grofman, Michael Migalski & Nicholas Noviello, *The "Totality of Circumstances Test" in Section 2 of the 1982 Extension of the Voting Rights Act: A Social Science Perspective*, 7 L. & Pol'y 199 (1985); Bernard Grofman, *Measures of Bias and Proportionality in Seats-Votes Relationships*, 9 Pol. Methodology 295 (1983).

Amici seek to assist the Court in understanding recent developments in social science methodologies for identifying and measuring the extent of partisan gerrymanders. They do not take a position on whether, given the particular facts and expert witness analyses, the district courts correctly decided these cases. But *amici* firmly believe that partisan gerrymanders are justiciable, and that this Court should adopt an articulable standard for adjudicating partisan gerrymandering claims. Social science tools now allow courts to diagnose partisan gerrymanders with accuracy and precision, including identifying the specific legislative district or districts affected. They also allow courts to distinguish ordinary, acceptable politicking from conduct that rises to the level of unconstitutional discrimination against voters based on their political views. If the Court again declines to adopt a standard for unconstitutional partisan gerrymandering, politicians will have free rein to violate associational and representational rights.

Amicus Bernard Grofman is the Jack W. Peltason Chair of Democracy Studies and Distinguished Professor of Political Science at the University of California, Irvine. He has frequently served as an expert

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Professor Gaddie's publications include Charles S. Bullock, III, Ronald Keith Gaddie & Justin J. Wert, *The Rise and Fall of the Voting Rights Act* (2016); Charles S. Bullock, III & Ronald Keith Gaddie, *The Triumph of Voting Rights in the South* (2009); Ronald Keith Gaddie & Charles S. Bullock, III, *From* Ashcroft *To* Larios*: Recent Redistricting Lessons from Georgia*, 34 Fordham Urb. L.J. 997 (2007); Ronald Keith Gaddie & Charles S. Bullock, III, *Elections to Open Seats in the U.S. House: Where the Action Is* (2000).

witness and consultant in redistricting cases, including for the State of Indiana in *Davis v. Bandemer*, 478 U.S. 109 (1986), and for the plaintiffs in *Thornburg v. Gingles*, 478 U.S. 30 (1986), and *Badham v. Eu*, 694 F. Supp. 664 (N.D. Cal. 1988), *aff'd*, 488 U.S. 1024 (1989). He joined *amicus* briefs on behalf of neither party in *Gill v. Whitford*, 138 S. Ct. 1916 (2018), *Vieth v. Jubelirer*, 541 U.S. 267 (2004), and *League of United Latin American Citizens (LULAC) v. Perry*, 548 U.S. 399 (2006), urging that partisan gerrymanders are justiciable. This Court has previously cited Professor Grofman's work (including volumes he edited) in over a dozen cases.[3] Scholars often credit his brief in *LULAC* with introducing the Court to the first generation of social science analysis of partisan asymmetry, and his work was cited extensively in the development of the *Gingles* test for evaluating racial vote dilution under the Voting Rights Act. Professor Grofman has also drawn redistricting plans for federal district courts, non-partisan commissions, and the U.S. Department of Justice—including recent service in 2015 as the special master to a federal district court after it declared Virginia's Congressional District 3 unconstitutional; in 2017 as the special master to a district court responsible for the redrawing of

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[3] *See Ariz. State Legislature v. Ariz. Indep. Redistricting Comm'n*, 135 S. Ct. 2652 (2015); *Shelby Cty. v. Holder*, 570 U.S. 529 (2013); *LULAC v. Perry*, 548 U.S. 399 (2006); *Vieth v. Jubelirer*, 541 U.S. 267 (2004); *Georgia v. Ashcroft*, 539 U.S. 461 (2003); *Abrams v. Johnson*, 521 U.S. 74 (1997); *Shaw v. Hunt*, 517 U.S. 899 (1996); *Bush v. Vera*, 517 U.S. 952 (1996); *Miller v. Johnson*, 515 U.S. 900 (1995); *Johnson v. De Grandy*, 512 U.S. 997 (1994); *Holder v. Hall*, 512 U.S. 874 (1994); *Shaw v. Reno*, 509 U.S. 630 (1993); *Thornburg v. Gingles*, 478 U.S. 30 (1986); *Davis v. Bandemer*, 478 U.S. 109 (1986).

county commission and school district lines in a small Utah County with a large Navajo population after the previous maps were found unconstitutional under *Shaw v. Reno*; and in 2018 as the special master to a district court responsible for the redrawing of eleven Virginia legislative districts found to be unconstitutional under *Shaw*. Professor Grofman's curriculum vitae is available at https://tinyurl.com/y8ppxmvg.

Amicus Ronald Keith Gaddie is the President's Associates Presidential Professor of Political Science, Architecture and Journalism at the University of Oklahoma and an editor of Social Science Quarterly. He too has served as an expert witness and consultant in numerous redistricting cases, including for the State of Texas in *LULAC* and for the plaintiffs in *Cox v. Larios*, 542 U.S. 947 (2004). Most recently, Professor Gaddie worked as a consultant to the Wisconsin legislature's Republican leadership in drafting the map at issue in *Gill v. Whitford*; the Republican Caucus's attorneys hired Professor Gaddie to assess, among other things, the expected partisan impact of the proposed maps. Professor Gaddie has always believed that partisan gerrymanders are justiciable. He coauthored an *amicus* brief with Professor Grofman in *Gill*. His curriculum vitae is available at https://tinyurl.com/y874ysrm.

INTRODUCTION AND SUMMARY OF ARGUMENT

Modern, computer-driven redistricting now allows the political party in power to craft extremely sophisticated partisan gerrymanders. With vastly improved computer speed, memory, and storage, map

drawers can design district lines so precisely that they simultaneously maximize their party's gains and eliminate most competitive districts—ensuring that the party in power enjoys an electoral advantage that endures throughout the following decade, irrespective of voters' subsequent choices.

Left unchecked, partisan gerrymandering fundamentally undermines our democracy. It is a basic tenet of fair elections that the parties must play by the same rules. But a partisan gerrymander violates that core principle: Under a successful partisan gerrymander, one party needs fewer votes to win representation than the other party. A partisan gerrymander dilutes the votes of some members of the electorate, simply because of their partisan affiliation. And where the partisan gerrymander is unresponsive to electoral shifts, only the courts can provide a remedy.

This Court should hold that partisan gerrymandering claims are justiciable. To be precise, partisan gerrymandering occurs when a districting plan subjects voters to unequal treatment in the weight of their votes, diluting the power of disfavored citizens' votes compared to what might be expected from a plan drawn on the basis of neutral principles. But not all partisan gerrymanders are unconstitutional. The Court should adopt a test for unconstitutional partisan gerrymandering that requires a showing of packing or cracking in a particular district or set of districts that is caused by invidious discrimination and persistently costs the party out of power at least one seat. The district-specific standard we propose provides a judicially manageable framework through

which judges can and should identify and evaluate the extent of partisan gerrymanders. And social science provides ample tools—in the form of analytical tests and computer simulations—to assist the judiciary in conducting those inquiries.

ARGUMENT

I. Courts Must Provide a Check on Egregious Partisan Gerrymandering.

Invidious partisan gerrymandering occurs when a political party intentionally redraws legislative district lines to give itself a durable electoral advantage over the party out of power, penalizing disfavored voters and diluting their votes.[4] The two indispensable tools of partisan gerrymandering are "packing" and "cracking." *See, e.g.*, *Davis v. Bandemer*, 478 U.S. 109, 117 n.6 (1986) (describing "familiar techniques of political gerrymandering").[5] "Cracking" means spreading opposition party voters across multiple districts so

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[4] We use the phrase "dominant party" to refer to the party doing the line drawing, even if it is not a voting majority of the electorate. The phrase "opposition party" refers to the party out of power.

[5] Other partisan gerrymandering techniques maximize partisan advantage by treating the disfavored party's incumbents disparately, through pairing two incumbents of the disfavored party in one district to preclude one's reelection ("hijacking") or separating an opposition party incumbent from her core supporters to reduce her chances of reelection ("kidnapping"). *See* Olga Pierce, Jess Larson & Lois Beckett, *Redistricting, A Devil's Dictionary*, ProPublica (Nov. 2, 2011), https://tinyurl.com/y9uuagw8; *see generally* Bernard Grofman, *Criteria for Districting: A Social Science Perspective*, 33 UCLA L. Rev. 77, 151 (1985). Also belonging in the gerrymandering

that opposition party support falls short of a majority in each, rendering the opposition incapable of prevailing in any of those districts. Cracking ensures that opposition voters within the cracked districts have a diminished—and vanishingly small—opportunity to elect their candidates of choice. "Packing," in turn, means concentrating the opposition party's backers within one or a small number of districts such that the opposition party wins those districts by overwhelming margins—making those districts essentially noncompetitive. Packing dilutes the influence of opposition party voters within the packed district, rendering each such voter functionally irrelevant to the resulting landslide opposition party victory in the district, and makes it harder for the opposition to win seats because of the distribution of its supporters.

Voters who reside in districts that have been "packed" or "cracked" suffer from having their votes diluted relative to voters in a non-gerrymandered baseline district. They have a reduced opportunity for their vote to make a difference in the outcome of an election. In short, their votes "carry less weight than [they] would carry in another, hypothetical district" that was not gerrymandered. *Gill v. Whitford*, 138 S. Ct. 1916, 1931 (2018) (majority op.); *see also, e.g.*,

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lexicon is "fracking," which Professor Grofman uses to refer to a form of discontiguity in which a district contains a border that "traverse[s] a county line more than once." *See* Report of the Special Master, ECF No. 323, at 50-51, *Bethune-Hill v. Va. State Bd. of Elections*, No. 14-CV-0852 (E.D. Va. Dec. 7, 2018) (finding fracking in four Virginia legislative districts identified by the district court as unconstitutional and no such discontiguity among districts in the same part of the state whose constitutionality had not been challenged).

Reynolds v. Sims, 377 U.S. 533, 555 (1964) ("[T]he right of suffrage can be denied by a debasement or dilution of the weight of a citizen's vote just as effectively as by wholly prohibiting the free exercise of the franchise."). This Court has previously held that packing and cracking injure individual voters who are subjected to racial gerrymandering by diluting their votes; vote dilution is also the injury suffered by voters bringing one person, one vote claims. Packing and cracking similarly dilute the votes of citizens subjected to partisan gerrymandering.[6]

Discrimination based on partisanship has real-world consequences. A voter who supports a disfavored party is denied an equal opportunity to use her vote to affect the representation of her district. Her vote is diluted relative to favored voters, because she is "packed" or "cracked" into a district where she does not affect the outcome. The officials representing her district are in turn unaccountable to her. Similarly, across a districting plan, voters from the disfavored party are denied an equal opportunity to affect the partisan composition of the legislature—meaning the legislative proposals they support are less likely to be introduced, debated, and passed. And because such voters have been deliberately boxed out of the political process, they may be unable to reverse the dilution of their votes by electing representatives who will ensure a more neutral distribution of political power. A

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[6] Although packing does not prevent the election of the packed voter's candidate of choice, this Court has recognized that it nonetheless causes a dilution injury because each packed individual's vote has less weight. *See, e.g.*, *Cooper v. Harris*, 137 S. Ct. 1455 (2017).

partisan gerrymander thus discriminates against voters in their representational rights because of their views and political associations in a way that cannot realistically be ameliorated through the ordinary electoral process.[7] *See Bandemer*, 478 U.S. at 124 ("[E]ach political group in a State should have the same chance to elect representatives of its choice as any other political group.").

There is compelling evidence that the 2010 redistricting cycle yielded partisan gerrymandering of a magnitude that is qualitatively and quantitatively different from what we have seen in the past—as much as three times more partisan bias than in the 2000 redistricting cycle—even when controlling for residential patterns of voters and demographic change. Anthony J. McGann et al., *Gerrymandering in America* 4-5, 97-98 (2016). Indeed, there were strong increases in bias even where the same party controlled both the 2000 and 2010 redistricting processes. *Id.* at 174. This increase in the aggressiveness of partisan gerrymanders may be driven in part by the fact that, as a result of the Court's "signal[] in *Vieth v. Jubelirer* (2004) that it would not intervene ...[,] state legislatures did not have to worry about the threat of legal oversight and pushed partisan advantage to its limits" during the 2010 cycle. *Id.* Absent

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[7] Plaintiffs alleging unconstitutional partisan gerrymanders have advanced several constitutional theories. *Amici* have sought to offer a standard for identifying and evaluating a partisan gerrymander at the district level under the Equal Protection Clause and the First Amendment. But *amici* also believe that manageable standards exist for evaluating partisan gerrymanders at a statewide level.

a judicial check, the level of egregious partisan gerrymandering may worsen still in 2020 because of a marked increase in the number of legislatures under unified partisan control. *See State Partisan Composition*, Nat'l Conference of State Legislatures, https://tinyurl.com/guos34u (last updated Feb. 4, 2019).

Whether courts should intercede to police egregious partisan gerrymanders is not a matter of one's political leanings. While evidence suggests that at a national level, the net benefits of partisan gerrymandering currently accrue to Republicans, in the past, the net benefits have accrued to Democrats. McGann et al., *supra*, at 71-72, 88. The party in power has strong incentives to change the map to keep itself there. Indeed, the Court here is considering a pair of cases challenging maps enacted by Republicans on one hand and Democrats on the other. On either side, where there is improper gerrymandering it is the voters who lose: Their rights are undermined based upon their political views, and incumbents are entrenched in office without regard to changes in voter preferences. *See Ariz. State Legislature v. Ariz. Indep. Redistricting Comm'n*, 135 S. Ct. 2652, 2677 (2015) (noting "the core principle of republican government" that "voters should choose their representatives, not the other way around").

Courts must serve as a neutral check. If the Court again declines to adopt a standard for unconstitutional partisan gerrymandering, politicians will have free rein to wield the technological advances discussed below to craft ever more egregious partisan gerrymanders. Continued judicial abdication would ensure that representatives are selected by the self-

dealing maps they enact, rather than elected by the people they ostensibly serve—locking in place electoral advantages that are, for all practical purposes, impervious to changes by the electorate.

II. Partisan Gerrymanders Can Be Identified and Measured on a Single-District Basis.

The majority opinion in *Gill* made clear that the threshold inquiry under a vote dilution theory of partisan gerrymandering requires identifying specific districts that have been packed or cracked. *See Gill*, 138 S. Ct. at 1921 ("The boundaries of the district, and the composition of its voters, determine whether and to what extent a particular voter is packed or cracked."). In our view, a successful partisan gerrymandering claim will demonstrate packing or cracking in a specific district that is caused by invidious discrimination and persistently costs the party out of power at least one seat. Fortunately, while the tests previously proposed for identifying a partisan gerrymander—including tests that included measures of partisan asymmetry like the efficiency gap and the mean-median gap—typically entailed statewide analysis, the Court need not start from scratch to identify a district-level gerrymander. Instead, the well-developed jurisprudence in racial gerrymandering cases can be adapted to determine the existence of "packing" or "cracking" in the partisan gerrymandering context. And existing social science tools can assist courts in determining the extent to which the challenged district deviates from a neutral baseline, whether the deviation is likely to persist over election cycles, and whether invidious partisan discrimination is the cause.

A. Courts can readily identify packing or cracking in a specific district that costs the party out of power at least one seat.

The Court's racial gerrymandering jurisprudence offers a well-developed framework for identifying whether a particular district has been packed or cracked. We propose adapting existing standards to the partisan gerrymandering context.[8]

Racial vote dilution claims under Section 2 of the Voting Rights Act require a showing that an electoral measure has resulted in the denial or abridgment of the right to vote based on race. *See Thornburg v. Gingles*, 478 U.S. 30, 48-49 (1986); *see also Bartlett v. Strickland*, 556 U.S. 1, 26 (2009).[9] In making a threshold determination of whether the necessary (but not sufficient) conditions for such a vote dilution claim have been met, the Court has adopted a three-pronged test, in which the plaintiff must prove that (1) she belongs to a group that is sufficiently large and geographically compact to constitute a majority in a single-member district; (2) the group is politically cohesive; and (3) voting is racially polarized, and the

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[8] Elaboration of some of the tests and measurement issues discussed in this brief can be found in Bernard Grofman, *Tests for Unconstitutional Partisan Gerrymandering in a Post-*Gill *World*, 18 Election L.J. (forthcoming 2019) (on file with author). It will be made available online later this winter.

[9] Similarly, under Section 5 of the Voting Rights Act, courts evaluated whether an electoral change submitted for preclearance would have a retrogressive effect on the ability of minority voters to elect the candidate of their choice. *See, e.g., Georgia v. Ashcroft*, 539 U.S. 461, 480 (2003).

level of racial bloc voting is such that in the challenged district the minority candidate usually loses. *See Gingles*, 478 U.S. at 48-49. This inquiry can be readily adapted for application to claims that a district has been unconstitutionally gerrymandered based on partisanship—that the voter, if not gerrymandered, could be placed in a district in which she could meaningfully contribute to the election of her candidate of choice. In adapting this test to partisan gerrymandering claims, the Court would consider three factors that parallel the *Gingles* inquiry—factors that ultimately require partisan gerrymandering plaintiffs to establish that at least one seat lost to partisan gerrymandering could be gained in a neutral plan.

The first factor we would propose is whether the opposition group is sufficiently large and geographically compact in the locality of the challenged district such that a new district can be drawn in which the opposition has a majority or in which it has a realistic opportunity to elect its candidate of choice.[10] Key to this inquiry is whether the district can be redrawn to create a majority or opportunity-to-elect district for the opposition party without reducing the overall number of districts in which the opposition forms a

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[10] While districts where the opposition party could form a majority in a hypothetical non-gerrymandered district present the most obvious claims, a proper statistical evaluation would be able to catch even subtler forms of partisan gerrymandering, such as where several competitive districts have been drawn with a thumb on the scale so that the number of competitive districts leaning toward the dominant party is greater than the number of competitive districts drawn leaning toward the opposition party.

majority. That is, this factor requires that the opposition party has been deprived of partisan advantage in at least one district in the enacted plan.

Second, courts should consider whether the opposition group is politically cohesive and voting is polarized along partisan political lines. In the present era of partisan "hyperpolarization," demonstrating political cohesiveness will be a much easier task than in past decades. Indeed, map drawers (legislators and their staff and consultants) themselves routinely use historical election data to draw maps. They do so knowing that past political preferences are highly predictive of future political fortunes. Courts, assisted by expert witnesses, can appropriately rely on these same data to evaluate the partisan consequences of alternative districting plans. Moreover, experts can adapt models to account for situations in which past partisan performance was likely attributable to idiosyncratic factors. In the racial gerrymandering context, courts have long been comfortable relying on statistical modeling to identify voters' preferences. *Cf. Growe v. Emison*, 507 U.S. 25, 41 (1993). Partisan political modeling is in fact easier in the partisan gerrymandering context than in the racial gerrymandering context, since in the latter we must model preferences based on statistical inferences about how racial minorities voted in the past, Nicholas O. Stephanopoulos, *Race, Place, and Power*, 68 Stan. L. Rev. 1323, 1356 (2016) (describing challenges in drawing ecological inferences about individual preferences from aggregate information), whereas election data tell us directly how each political party previously performed. And, importantly, modeling voters' political

preferences is not about predicting actual future election outcomes. Rather, modeling establishes how a generic Democrat or Republican would perform—and thus whether a candidate from one party enters the playing field with an advantage.

The third factor we propose differs modestly for packing and cracking claims. For a cracking claim, we inquire whether opposition candidates in the challenged district regularly lose or, if the plan has not yet been implemented, whether there is compelling evidence based on past elections that they would be virtually certain to lose. In other words, the test we propose would find that a challenged district had been cracked only if opposition voters had been diluted such that they could not elect their preferred candidate. Meanwhile, for a packing claim, this factor would inquire whether the challenged district can be redrawn unpacked to create a district in which the opposition retains its ability to elect a candidate of its choice that does an equally good or better job of satisfying traditional districting criteria as the challenged district. In other words, it requires showing that the packed voters can retain the ability to elect their candidate of choice while being unpacked into another district that is at least as good at satisfying other, neutral districting criteria.

B. Testing for responsiveness can establish whether packing or cracking will *persistently* deprive opposition voters of a seat.

An additional element necessary for the identification of an unconstitutional partisan gerrymander is

a lack of responsiveness to the electoral process. Even if districts are revealed to have been packed or cracked along partisan lines, if the party out of power can alter its fate by persuading voters to support it in the next election, then there is no need for courts to intervene. In such cases, ordinary politics remain responsive to voters' preferences; if citizens do not like policies promulgated by their representatives (including the district maps they enact), they can vote them out of office. *See* Michael D. McDonald & Robin E. Best, *Unfair Partisan Gerrymanders in Politics and Law: A Diagnostic Applied to Six Cases*, 14 Election L.J. 312, 319 (2015) (arguing that the Court "entered the metaphorical political thicket in the 1960s on the question of malapportionment" because of "the practical problem ... that popular majorities had no political means to correct the offense"); Nicholas O. Stephanopoulos & Eric M. McGhee, *Partisan Gerrymandering and the Efficiency Gap*, 82 U. Chi. L. Rev. 831, 865 (2015). In principle, even large-scale disparities in partisan treatment can be fleeting. A constitutional standard for partisan gerrymanders should accordingly require a separate assessment of electoral responsiveness, sometimes called "durability."

Electoral responsiveness describes whether and how representation changes when voters' preferences change. If a map is not responsive, that means that when voters change their preferences and shift their allegiances from one party to another, their representation remains unlikely to change—showing that the politicians have chosen the voters, and not the other way around. In that circumstance, we can expect citizens' votes to remain diluted regardless of the outcome of future elections. Conversely, high

responsiveness suggests that the discriminatory effect on voters may not be long-lasting.

Measuring responsiveness will also detect "self-limiting" gerrymanders—sometimes called "dummymanders," *see* Bernard Grofman & Thomas L. Brunell, *The Art of the Dummymander: The Impact of Recent Redistrictings on the Partisan Makeup of Southern House Seats, in* Redistricting in the New Millennium 183, 184 (Peter Galderisi ed., 2005)—in which map drawers crack voters across multiple districts to create margins of victory so thin that they evaporate in future elections. *Bandemer*, 478 U.S. at 152 (O'Connor, J., concurring). But dummymanders can occur only when there are numerous competitive districts in a map. And there is empirical evidence that dummymanders are rare. *See* McGann et al., *supra*, at 226 ("A second myth we have debunked is that partisan gerrymandering is self-limiting"). This is increasingly the case as the computer technology for conducting gerrymanders improves. In any event, assessing responsiveness "allows us to distinguish those cases in which a gerrymandering might have been attempted but was not very well done from those cases in which the partisan bias imposed by gerrymandering is expected to be both substantial and long-lasting." Bernard Grofman & Gary King, *The Future of Partisan Symmetry as a Judicial Test for Partisan Gerrymandering after* LULAC v. Perry, 6 Election L.J. 2, 13 (2007).

Social science offers tools for evaluating the durability of a gerrymander. Based on historical data—how much voters' preferences swung in prior elec-

tions—experts can identify the full range of realistically possible election outcomes and determine how many legislative seats, if any—and, critically, which seats—would change hands in response to a comparable change in voters' choices. The number of competitive districts also provides evidence of the map's responsiveness. Requiring that plaintiffs demonstrate that a disparate partisan impact will be durable throughout the decade following redistricting—that the map is not responsive to voters—ensures that courts do not intervene in the political process when it is functioning properly. If the map does not persistently obstruct competition, the voters' remedy lies at the polls, not in the courts.

C. Computer simulations can establish whether the partisan disparity in the challenged district was caused by invidious discrimination rather than neutral factors or chance.

1. Once we have identified a district or districts that have been durably packed or cracked, we know that a district or districting plan imposes disparate effects on disfavored voters that are impervious to electoral tides. But that does not end the inquiry. Rather, there is consensus among social scientists that to determine whether invidious discrimination is the cause of a disparate burden on opposition voters, it is necessary to rule out other potential causes of the district configuration—to assess whether the partisan effects of a plan are attributable, for example, to neutral principles, voters' residential patterns, or sheer random chance. *See, e.g.*, Samuel S. H. Wang, *Three Practical Tests for Gerrymandering: Application to*

Maryland and Wisconsin, 16 Election L.J. 367, 374 (2016) ("[A] standard for partisan gerrymandering requires a method for determining whether a [claimed disparity] could have arisen as part of normal variation in districting as practiced across the United States."); McDonald & Best, *supra*, at 317 ("[I]n order to distinguish unintentional from intentional gerrymanders, a benchmark of what naturally would result from any neutral line drawing has to be established."). That is, we must compare the map's disparate effects against a neutral baseline.

As this Court has noted, advantages to one party may occur because of a variety of neutral factors. *See, e.g.*, *Vieth v. Jubelirer*, 541 U.S. 267, 289-90 (2004) (plurality op.); *id.* at 308-09 (Kennedy, J., concurring). For example, map drawers must comply with the Constitution's "one person, one vote" and nondiscrimination requirements. They also must comply with the Voting Rights Act by avoiding racial vote dilution. *See* Charles S. Bullock, III & Ronald Keith Gaddie, *The Triumph of Voting Rights in the South* 343 (2009). And many states' laws also require map drawers to consider certain traditional districting criteria, like contiguity, compactness, and preservation of political subunits like cities and counties, as well as communities of interest—groups of people with a common attribute like race or ethnicity. *See, e.g.*, Justin Levitt, *Where Are The Lines Drawn?, All About Redistricting*, https://tinyurl.com/aw3qgn5 (last visited Feb. 5, 2019) (collecting current, state-by-state requirements for redistricting); *see also* Bernard Grofman, *Criteria for Districting: A Social Science Perspective*, 33 UCLA L. Rev. 77 (1985) (Table 3) (collecting state-by-state requirements for 1980s redistricting).

Pursuit of these neutral objectives may produce inadvertent advantages to one party. For example, there is some evidence that "political groups that tend to cluster (as is the case with Democratic voters in cities) [c]ould be systematically affected by what might be called a 'natural' packing effect," *Vieth*, 541 U.S. at 290 (plurality op.)—although new empirical evidence indicates that this effect has been overstated, McGann et al., *supra*, at 135 ("[G]eographic and demographic constraints (such as the urban concentration of Democratic voters, the requirement to draw majority-minority districts, and the geographic sorting of voters) ... certainly cannot account for the increase in [partisan] bias we observe between the 2000 and 2010 districting rounds."). Similarly, compliance with the Voting Rights Act has spillover effects on a district's partisan makeup. *See* Bullock & Gaddie, *supra*, at 343. Random chance may also play a role.

Packing or cracking that is merely a side effect of indisputably legitimate objectives within the redistricting process or that is naturally occurring does not evidence actionable invidious discrimination. Any constitutional test for partisan gerrymandering will thus have to rule out these causes of vote dilution and isolate the degree of disparate partisan advantage that is "unrelated to the [legitimate] aims of apportionment," or to residential patterns or chance. *Vieth*, 541 U.S. at 313 (Kennedy, J., concurring).

Social science again provides the toolkit: extremely sophisticated and accurate methods of ruling out neutral factors as the source of partisan asymmetry. Vastly improved computing power permits experts to create hundreds (or even millions) of

computer-generated alternative maps. These computer-generated maps are produced to satisfy all traditional districting criteria to at least the same extent as the challenged plan.

It has become increasingly common in partisan gerrymandering challenges for experts to offer these computer-generated simulations of random plans drawn in accordance with traditional districting principles and reflective of the underlying partisan electoral geography (or, similarly, random permutations from a challenged map). *See, e.g.*, *League of Women Voters v. Commonwealth of Pennsylvania*, 178 A.3d 737, 770-75 (Pa. 2018) (describing the testimony of Dr. Jowei Chen, centering on computer-generated alternative maps). These simulations serve as a neutral baseline for comparison with the challenged district. From these simulations, analysts have used past voting behavior to calculate the range of likely partisan outcomes resulting from the challenged map or district to evaluate whether a challenged map or district is a statistical outlier.

This methodology enables us to establish to a high degree of statistical certainty whether packing or cracking is explainable by something other than invidious intent. For example, because the alternative maps take as a given the actual human geography of the state, any amount of packing that naturally results from residential patterns will be reflected in the alternative maps, which can also be programmed to preserve intact communities of interest or districts required by the Voting Rights Act. *See, e.g.*, Br. of Political Geography Scholars, *Gill v. Whitford*, No. 16-1161 (U.S. 2017), at 7, 12-13 & nn.10-11. These tools enable

experts to identify whether disparate effects are "manmade"—the product of deliberate efforts of the party in power to penalize the opposition—as distinct from those that may be produced by the effects of neutral districting priorities, voters' residential patterns, or chance. *See, e.g.*, Jowei Chen & Jonathan Rodden, *Cutting Through the Thicket: Redistricting Simulations and the Detection of Partisan Gerrymanders*, 14 Election L.J. 312, 312 (2015). We can thus quantify and rule out any conceivable neutral justification for packing and cracking.

Political scientists have developed variations on this computer simulation methodology—with minor differences in how the random-map-generation algorithm operates, what inputs are used, and how they are prioritized. *E.g.*, *id.*; Wendy Tam Cho et al., *A Reasonable Bias Approach to Gerrymandering: Using Automated Plan Generation to Evaluate Redistricting Proposals*, 59 William & Mary L. Rev. 1521 (2018); Jonathan Mattingly et al., Quantifying Gerrymandering, https://tinyurl.com/yc4cvxkg (last visited Feb. 5, 2019). But the basic method is sound, notwithstanding these nuances. Indeed, courts are already relying on it in the one person, one vote context. *See Raleigh Wake Citizens Ass'n v. Wake Cty. Bd. of Elections*, 827 F.3d 333, 344 (4th Cir. 2016) (holding district court "clearly and reversibly erred in rejecting Dr. Jowei Chen's expert testimony," based on computer generation of 500 randomly drawn redistricting plans, that a challenged population deviation was the product of partisan bias). And in a recent state court challenge to a Pennsylvania redistricting, Professor Chen offered computer simulation evidence about the degree

to which the challenged plan failed to satisfy traditional redistricting criteria compared to politically neutral plans drawn by a computer programmed to honor traditional districting factors. *See League of Women Voters*, 178 A.3d at 770-75. Such evidence can be relied on as indicative of possible partisan motive. And as discussed above, even though Professor Chen's testimony was about statewide effects, it is straightforward to transform his data into evidence that particular districts are statistical outliers.

While these computer simulations have typically been produced and evaluated on a statewide basis, they remain relevant to assessing whether a given district or set of districts exhibits packing or cracking to a degree that would be judged as statistically extreme when compared to expectations derived from maps drawn according to neutral principles. Such an analysis could be a vital component of a district-specific analysis of partisan gerrymandering, though it begins with calculations based on statewide data.

This district-level analysis could be applied to either packed or cracked districts. To detect packing, challenged districts could be ranked in terms of their actual or expected partisan advantage, with reference to voter registration data and past voting behavior. The most heavily opposition district challenged would be compared against simulation results to evaluate the extent to which it was more extreme in its partisan composition than the simulation based on neutral redistricting and whether that difference was statistically significant. The analysis would continue through the ordered list of districts, evaluating

whether the next-most-extreme district in the challenged map was also a statistical outlier with respect to its concentration of opposition voting strength compared to the neutral baseline, proceeding in this fashion until all the statistical outliers had been identified; those outlier districts would be candidates for further evaluation as potentially invidious partisan gerrymanders. A similar approach to allegedly cracked districts would use information on the *most* competitive districts in the computer-generated maps to ascertain whether districts within the challenged map exhibited a partisan advantage favoring the majority party to an extent incompatible with neutral line drawing, in terms of number of districts that were competitive with an edge toward the dominant party versus those that were competitive with an edge toward the opposition.

2. We have focused on aiding the Court in understanding the social science tools for isolating the causes of apparent partisan gerrymanders—a means of inferring whether a disparate effect on voters was intentionally imposed. But, of course, nonstatistical evidence of intent is also relevant. Numerical analyses must be supplemented by more direct inspection of district boundaries (and how they changed from the prior map) to establish invidious discrimination.[11]

Here, again, a well-developed racial gerrymandering jurisprudence illustrates how the Court can

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[11] Relatedly, single-party control of the districting process will likely be a precondition for the finding of an unconstitutional partisan gerrymander.

use nonstatistical evidence to sniff out invidious discrimination on partisan lines. *See, e.g.*, *Shaw v. Reno*, 509 U.S. 630 (1993). Certainly, public statements by legislators in the dominant party—perhaps boasting of their success in doing the best possible partisan gerrymander—can indicate that an invidious motive to maximize partisan advantage predominated.[12] So too can deviations from the ordinary legislative process, such as secrecy, limited debate, or party-line voting in the enactment of the map. And a comparison between the challenged map and its predecessor may indicate that the lines were redrawn in a direct and egregious partisan fashion, as when changes from a prior plan involved movement of opposition party strength in or out of districts with no nonpartisan justification proffered. Notably, although discriminatory partisan gerrymanders may often be visually unremarkable while still maximizing partisan advantage, contorted district lines and disregard for traditional districting criteria are surefire signals that partisan gerrymandering is afoot, even if not themselves illegal. *See Miller v. Johnson*, 515 U.S. 900, 913 (1995)

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[12] Many legislators apparently came to believe that there would be no court-imposed checks on partisan gerrymandering in the 2010 redistricting round. Accordingly, to minimize the likelihood of a challenge to a plan on *racial* grounds, some mapmakers openly asserted that their driving motivation was to draw the best *partisan* gerrymander possible. For example, the district court in *Rucho* observed that, in North Carolina, Representative Lewis said that he "propose[d] that [the Committee] draw the maps to give a partisan advantage to 10 Republicans and 3 Democrats because [he] d[id] not believe it [would be] possible to draw a map with 11 Republicans and 2 Democrats." *Common Cause v. Rucho*, 279 F. Supp. 3d 587, 604 (M.D.N.C. 2018), *vacated and remanded*, 138 S. Ct. 2679.

("Shape is relevant not because bizarreness is a necessary element of the constitutional wrong or a threshold requirement of proof, but because it may be persuasive circumstantial evidence ... [of] the legislature's dominant and controlling rationale in drawing its district lines."); *see also, e.g.*, *League of Women Voters*, 178 A.3d at 775-76, 820-21 (2018) (describing testimony of Dr. John Kennedy regarding how specific districts in the challenged map failed to satisfy traditional districting criteria and how the modification of the prior map occurred in a directly partisan manner). The same factors that assist in the "intensely local appraisal," *White v. Register*, 412 U.S. 755 (1973), required in racial gerrymandering cases apply equally to the partisan gerrymandering context.

CONCLUSION

For the foregoing reasons, the Court should hold that partisan gerrymander claims are justiciable and adopt the standard proposed for evaluating the constitutionality of partisan gerrymanders.

Respectfully submitted,

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